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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,924	03/10/2004	Hiroshi Kimura	FUJI:298	3355
37013	7590	03/24/2005	EXAMINER	
ROSSI & ASSOCIATES P.O. BOX 826 ASHBURN, VA 20146-0826			CANNING, ANTHONY J	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,924

Applicant(s)

KIMURA ET AL.

SM

Examiner

Anthony J. Canning

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/10/04; 9/30/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4-6, 8, 12, 14, and 15 rejected under 35 U.S.C. 102(b) as being anticipated by Burrows et al. (U.S. 6,048,630).

3. Regarding claim 1, Burrows et al. disclose an organic light-emitting device (column 1, lines 12-13) including a substrate (see Fig. 17, item 40; column 16, line 2; column 14, line 32), and a layered body that contains (see Fig. 17), in order, a reflecting electrode (see Fig. 17, item 80; column 16, lines 29-31), a first organic EL layer that emits light of a first color (see Fig. 17, item 70; column 16, lines 24-29), a first transparent electrode (see Fig. 17, item 112; column 16, lines 16-20), a second organic EL layer that emits light of a second color different than the first color (see Fig. 17, item 100; column 16, lines 6-8), and a second transparent electrode (see Fig. 17, item 50; column 16, lines 1-3). Regarding the limitation of electrode polarity, the polarity of electrodes is a method of operating and not germane to the structure.

4. Regarding claim 2, Burrows et al. disclose the organic light-emitting device according to claim 1, which emits white light (column 2, lines 52-54).

5. Regarding claim 4, Burrows et al. disclose the organic light-emitting device according to claim 1, wherein the substrate (see Fig. 17, item 40; column 16, line 2;

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column 14, line 32) and the second transparent electrode (see Fig. 17, item 50; column 16, lines 1-3) are in contact with one another, and the substrate is a transparent substrate (see Fig. 17, items 40 and 50; column 16, lines 1-3).

6. Regarding claims 5 and 6, Burrows et al. disclose the organic light-emitting device according to claim 1. Regarding the limitation of electrode polarity, being anodes or cathodes, the polarity of electrodes is a method of operating and not germane to the structure.

7. Regarding claim 8, Burrows et al. disclose the organic light-emitting device according to claim 1, additionally including a light-blocking layer (see Fig. 17, item 108; column 16, lines 22-24) between the first transparent electrode and the second organic EL layer (see Fig. 17, items 112 and 100).

8. Regarding claim 12, Burrows et al. disclose an organic light-emitting device (column 1, lines 12-13) including a substrate (see Fig. 17, item 40; column 16, line 2; column 14, line 32), a reflecting electrode (see Fig. 17, item 80; column 16, lines 29-31), and a plurality of layers (see Fig. 17) including organic EL layers (see Fig. 17, items 70 and 100; column 16, lines 24-29; column 16, lines 6-8) and transparent electrodes (see Fig. 17, items 50 and 112; column 16, lines 1-3; column 16, lines 16-20) formed alternately on the reflecting electrode (see Fig. 17), wherein the reflecting electrode is in contact with one of the organic EL layers (see Fig. 17, items 70 and 80), each of the organic EL layers emits light of a different color (column 15, lines 65-67; column 16, lines 6-8; column 16, lines 24-29). Regarding the limitation of electrode polarity, the polarity of electrodes is a method of operating and not germane to the structure.

9. Regarding claim 14, Burrows et al. disclose the organic light-emitting device according to claim 12, wherein the substrate, and the one of the transparent electrodes furthest from the reflecting electrode are in contact with one another (see Fig. 17, items 40, 50, and 80; column 16, lines 1-3; column 16, lines 29-31), and the substrate is a transparent substrate (column 16, lines 1-3).

10. Regarding claim 15, Burrows et al. disclose the organic light-emitting device according to claim 12, additionally including a light-blocking layer (see Fig. 17, item 108; column 16, lines 22-24) between one of the transparent electrodes and one of the organic EL layers in contact therewith (see Fig. 17, items 112 and 70).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burrows et al. (U.S. 6,048,630) in view of Inoguchi et al. (U.S. 5,932,327).

13. Regarding claim 7, Burrows et al. disclose the organic light-emitting device according to claim 1. Burrows et al. fail to disclose that one of the first organic EL layer and the second organic EL layer emits blue/green light, and the other emits yellow light.

Inoguchi et al. disclose an electroluminescent element with a yellow light emitting and a blue/green light-emitting layer (column 1, lines 24-32). Inoguchi et al. further

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disclose that this combination of color layers can be used along with color filters to allow emission of multi-colored light (column 1, lines 30-32).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the organic light-emitting device of Burrows et al. to include a first organic EL layer and a second organic EL layer emits blue/green light, and the other emits yellow light to allow for emission of multi-colored light.

14. Claims 3, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burrows et al. (U.S. 6,048,630) in view of Utsugi (U.S. 5,837,391).

15. Regarding claims 3 and 13, Burrows et al. disclose the organic light-emitting device according to claims 1 and 12. Burrows et al. fail to disclose that the substrate and the reflecting electrode are in contact with one another.

Utsugi disclose an organic light-emitting device wherein the substrate and the reflecting electrode are in contact with one another (column 4, lines 52-53). The examiner interprets semitransparent to mean reflective. Utsugi et al. further disclose that the reflective electrode being on the substrate allows the manufacturer to regulate the tint of the luminescence of the emitted lights (column 5, lines 62-67).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the organic light-emitting device of Burrows et al. to include disclose that the substrate and the reflecting electrode are in contact with one another for the added benefit of regulating the tint of the luminescence of the emitted lights.

16. Regarding claim 9, Burrows et al. disclose the organic light-emitting device according to claim 1. Burrows et al. fail to disclose a transparent insulating layer between the first transparent electrode and the second organic EL layer.

Utsugi et al. disclose an organic light-emitting device with a transparent insulating layer (see Fig. 2, item 14b; column 3, lines 7-8) between the first transparent electrode (see Fig. 2, item 13a; column 3, lines 6-7) and the second organic EL layer (see Fig. 2, item 12; column 2, lines 1-4). Insulating layers add in keeping voltage in one luminescent layer from leaking into an adjacent one.

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the organic light-emitting device of Burrows et al. to include disclose a transparent insulating layer between the first transparent electrode and the second organic EL layer for the added benefit of keeping voltage in one luminescent layer from leaking into an adjacent one.

17. Claim 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burrows et al. (U.S. 6,048,630) in view of Shen et al. (U.S. 6,232,714 B1).

18. Regarding claim 16, Burrows et al. disclose the organic light-emitting device according to claim 12. Burrows et al. fail to additionally disclose a transparent insulating layer between one of the transparent electrodes and one of the organic EL layers in contact therewith.

Shen et al. disclose an organic light-emitting device with a transparent insulating layer (see Fig. 8, item 214; column 13, lines 18-19) between one of the transparent

electrodes (see Fig. 8, item 209b; Table 1, item 209b) and one of the organic EL layers in contact therewith (see Fig. 8, item 221; column 3, line 21). Shen et al. further disclose that the insulating layer can be used to shift the positions of the light source within the optical cavity defined by the second electrode (column 13, lines 18-21).

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the organic light-emitting device of Burrows et al. to include a transparent insulating layer between one of the transparent electrodes and one of the organic EL layers in contact therewith for the added benefit that the insulating layer can be used to shift the positions of the light source within the optical cavity defined by the second electrode.

19. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burrows et al. (U.S. 6,048,630) in view of Forrest et al. (U.S. 5,707,745).

20. Regarding claim 10, Burrows et al. disclose the organic light-emitting device according to claim 1. Burrows et al. fail to additionally disclose a third organic EL layer that contacts the second transparent electrode, and a third transparent electrode that contacts the third organic EL layer, wherein the third organic EL layer emits light of a color different than both the first color and the second color.

Forrest et al. disclose an organic light-emitting device including a third organic EL layer (see Fig. 2A, items 20H, 20E, and 20T; column 4, lines 20-26) that contacts the second transparent electrode (see Fig. 2A, item 26 adjacent item 20T), and a third transparent electrode that contacts the third organic EL layer (see Fig. 2A, item 35;

column 4, lines 20-22), wherein the third organic EL layer emits light of a color different than both the first color and the second color (column 6, lines 28-30). A tricolor display will produce a wider range of light in the visible spectrum by mixing the three colors at various intensities.

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the organic light-emitting device of Burrows et al. to include a third organic EL layer that contacts the second transparent electrode, and a third transparent electrode that contacts the third organic EL layer, wherein the third organic EL layer emits light of a color different than both the first color and the second color for the added benefit of a wider range of light in the visible spectrum by mixing the three colors at various intensities.

21. Regarding claim 11, Burrows et al. and Forrest et al. disclose the organic light-emitting device according to claim 10. Forrest et al. further disclose that one of the first organic EL layer, the second organic EL layer and the third organic EL layer emits blue light (see Fig. 2A, item 20E; column 1, lines 35-36), one emits green light (see Fig. 2A, item 21E; column 1, lines 35-36), and one emits red light (see Fig. 2A, item 22E; column 1, lines 35-36). A tricolor display will produce a wider range of light in the visible spectrum by mixing the three colors at various intensities.

Therefore, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the organic light-emitting device of Burrows et al. to include a third organic EL layer that contacts the second transparent electrode, and a third transparent electrode that contacts the third organic EL layer, wherein the

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third organic EL layer emits light of a color different than both the first color and the second color for the added benefit of a wider range of light in the visible spectrum by mixing the three colors at various intensities.

Pertinent Prior Art

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Burrows et al. (U.S. 5,917,280), Thompson et al. (U.S. 6,045,930), and Forrest et al. (U.S. 2001/0000005 A1) are pertinent prior art in the field of stack organic light-emitting devices.

Contact Information

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Canning whose telephone number is (571)-272-2486. The examiner can normally be reached on M-F 8:00-4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D. Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Canning 

17 March 2005


ASHOK PATEL
PRIMARY EXAMINER